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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,730	08/07/2001	Takeshi Kobayashi	201440-9001	1108

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401 North Michigan Avenue, Suite 1700
Chicago, IL 60611

EXAMINER

ELAHEE, MD S

ART UNIT	PAPER NUMBER
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2645

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,730

Applicant(s)

KOBAYASHI, TAKESHI

Examiner

Md S Elahee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02, 04 & 05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 6, the phrase 'said referencing plane' on page 17, lines 14 and 15 lacks sufficient antecedent basis because it appears that the phrase 'said referencing plane' should be 'said reflecting plane'.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Pankinaho (European Pub. No. EP 1,052,723 A2).

Regarding claim 6, Pankinaho teaches a radiator situated inside the rear case (fig.3, 12b, 12c; page 3, paragraph 0015, page 5, paragraph 0030). (Note: radiator is a part of an antenna and antenna is placed at the rear of the device)

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Pankinaho further teaches that an antenna metal element which is connected with the radiator at an output end thereof, and brought into contact with a feeding terminal formed on the printed circuit board at an input end thereof (12b, 12c; page 6, paragraphs 0032, 0033).

Pankinaho further teaches that a matching element (i.e., reflecting plane) which is situated opposited to the radiator maintaining a predetermined interval therebetween (12b, 12c; page 6, paragraphs 0032, 0033, 0036).

Pankinaho further teaches that a conductive patch (i.e., painting) which is applied to an inner surface of the rear case and brought into contact with a ground plane (i.e., grounding pattern) of the printed circuit board (12b, 12c; page 6, paragraphs 0032, 0033).

Pankinaho further teaches connecting terminals which connect an edge of the matching element 100 (i.e., reflecting plane) with the conductive patch 25 (i.e., conductive painting) via contacting means (fig.11F; page 5, paragraph 0028).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama (European Pub. No. EP 1,052,723 A2) and in view of Iwabuchi et al. (U.S. Patent No. 6,327,495).

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Regarding claim 1, Yokoyama teaches a printed circuit board on which a radio unit composed of a transmitter and a receiver is mounted (fig.2; col.1, lines 48-51, col.3, lines 22-24).

Yokoyama further teaches an internal antenna which is classified into an inverted F shaped antenna (col.3, lines 47, 48).

Yokoyama further teaches an antenna metal element which is connected with a feeding point of the internal antenna at an output end thereof, and brought into contact with a feeding terminal formed on the printed circuit board at an input end thereof (fig.2; col.1, line 42-col.2, line 2, col.3, lines 4-6, 22-31, col.4, line 51-col.5, line 1).

However, Yokoyama fails to teach “a front case which is provided with a data-inputting key, an information-displaying means, a speaker, and a microphone”. Iwabuchi teaches a front case which is provided with a data-inputting key, an information-displaying means, a speaker, and a microphone (fig.1; col.4, line 65, col.5, line14). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yokoyama to incorporate a front case being provided with a data-inputting key, an information-displaying means, a speaker, and a microphone as taught by Iwabuchi. The motivation for the modification is to have doing so in order to input a number of a telephone to be called by using key, indicate a number input from input unit by using display and maintain communication using speaker, and a microphone.

Yokoyama further teaches a rear case which is provided with a space for accommodating the internal antenna, and fitted to the front case to form a housing (i.e., casing) (fig.2, elements 15a, 15b; col.1, lines 53-56, col.3, lines 52-57).

Yokoyama further teaches that internal antenna is supported between the rear case and the printed circuit board (fig.2, elements 11, 15b; col.3, lines 52-57).

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Regarding claim 2, Yokoyama teaches the space in the rear cover for accommodating the internal antenna is a cavity which is fit for the internal antenna (fig.2, dotted cubic portion ABCHGFED, element 15b).

Regarding claim 3, Yokoyama teaches that a conductive film (i.e., painting) is applied to a predetermined region of an inner surface of the rear case, and brought into contact with a grounding pattern of the printed circuit board (fig.2; col.3, line 51- col.4, line 4).

Regarding claim 4, Yokoyama teaches that the conductive painting is applied to a region which is opposite the radio unit at least (fig.2; col.3, line 51- col.4, line 4).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama (European Pub. No. EP 1,052,723 A2) and in view of Iwabuchi et al. (U.S. Patent No. 6,327,495) and further in view of Pankinaho (European Pub. No. EP 1,052,723 A2).

Regarding claim 5 is rejected for the same reasons as discussed above with respect to claim 6.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Komatsu et al. (U.S. Patent No. 6,091,363) teach Radar module and antenna device.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alam Elahee whose telephone number is (703) 305-4822. The examiner can normally be reached on Mon to Fri from 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (703)305-4717. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

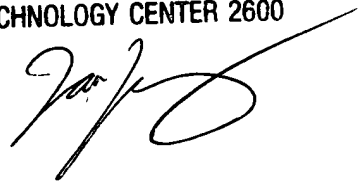
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

M. E.

MD SHAFIUL ALAM ELAHEE

May 15, 2004

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

A handwritten signature in black ink, appearing to read 'Fan Tsang', is written over the printed name and title.